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Liquid phase growth of silicon crystal used in manufacture of solar batteries - involves immersing substrate in solvent containing dissolved silicon and performing crystal growth by simultaneously supplying raw material gas containing silicon

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Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week
JP 11292693	A	19991026	JP 98347029	A	19981207	200003 B
US 20020005158	A1	20020117	US 98208377	A	19981210	200212
US 6391108	B2	20020521	US 98208377	A	19981210	200239
US 20020112660	A1	20020822	US 98208377	A	19981210	200258
			US 2002120357	A	20020412	

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Patent Details:

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JP 11292693	A		8	C30B-029/06	
US 20020005158	A1			C30B-001/00	
US 6391108	B2			C30B-019/00	
US 20020112660	A1			C30B-019/00	Div ex application US 98208377 Div ex patent US 6391108

Abstract (Basic): JP 11292693 A

NOVELTY - A silicon crystal is grown on a substrate (102) by immersing or contacting the substrate in a solvent (104) containing dissolved silicon atoms. Raw material gas containing silicon atom is simultaneously supplied to the solvent and silicon crystal is grown by decomposition of the raw material gas.

DETAILED DESCRIPTION - INDEPENDENT CLAIMS are also included for (i) the manufacture of solar battery by the liquid phase growth of silicone crystal (ii) the apparatus used for the manufacture of the silicon crystal by liquid phase growth. The apparatus has a reservoir (103) for maintaining the solvent and a device for immersing or contacting the substrate in the solvent. The apparatus is also provided with a pipe (106) through which raw material gas can be blown into the solvent.

USE - The liquid phase growth of silicon crystal is used in the manufacture of solar batteries (claimed).

ADVANTAGE - The supply of raw material is uninterrupted and crystal growth can be continuously performed. The method is suitable for mass production.

DESCRIPTION OF DRAWING - The figure shows the sectional drawing of the liquid phase growth apparatus. (101) Casing; ; (102) Substrate; ; (103) Solvent reservoir; ; (104) Solvent; ; (106) Pipe for introduction of raw material gas; ; (108) Heater.

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Title Terms: LIQUID; PHASE; GROWTH; SILICON; CRYSTAL; MANUFACTURE; SOLAR; BATTERY; IMMERSE; SUBSTRATE; SOLVENT; CONTAIN; DISSOLVE; SILICON; PERFORMANCE; CRYSTAL; GROWTH; SIMULTANEOUS; SUPPLY; RAW; MATERIAL; GAS; CONTAIN; SILICON

Derwent Class: J04; L03; U11; U12

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